



# **STIC Search Report**

## **EIC 3600**

**STIC Database Tracking Number: 110566**

**To: Jeff Gellner**  
**Location: PK5 3A02**  
**Art Unit : 3643**  
**Tuesday, December 16, 2003**

**Case Serial Number: 10/079000**

**From: Karen Lehman**  
**Location: EIC 3600**  
**PK5-Suite 804**  
**Phone: 306-5783**

**karen.lehman@uspto.gov**

### **Search Notes**

Jeff,  
PVP and imidacloprid are water soluble.



# STIC EIC 3600

## Search Request Form

Today's Date:

Priority Date:

For 705 Searches list subclass:

Your Name

AU

Examiner #

Room #

Phone

Serial #

Is this a Rush? YES NO

SPE's Signature

Is this a first action amendment? YES NO

Is this a refocus? YES NO

Access #

What is the focus of this search? Please include concepts, synonyms etc.

Attach a copy of the abstract, pertinent claims and your East search strategy. Thanks.

the solubility in water or non water  
(1)  
for polyvinyl pyrrolidone  
and imidacloprid Solvent  
liquid  
imidacloprid

STIC Searcher

Phone

Date picked up

Date completed

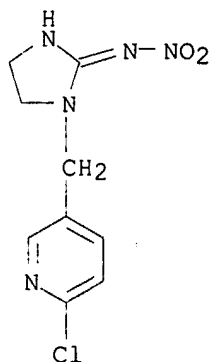


10/079000

# List of names for

d

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS on STN  
RN 138261-41-3 REGISTRY  
CN 2-Imidazolidinimine, 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro- (9CI) (CA  
INDEX NAME)  
OTHER NAMES:  
CN 1-[(6-Chloro-3-pyridinyl)methyl]-4,5-dihydro-N-nitro-1H-imidazol-2-amine  
CN 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine  
CN Admire  
CN Advantage Flea Adulticide  
CN BAY-NTN 33893  
CN Confidor  
CN Confidor 200SL  
CN Confidor SL  
CN CP 1  
CN Gaucho  
CN Hachikusan  
CN **Imidacloprid**  
CN Merit  
CN Merit (insecticide)  
CN Meritgreen  
CN NTN 33893  
CN NTN 33893-240FS  
CN Premise  
CN Provado  
AR 105827-78-9  
MF C9 H10 Cl N5 O2  
CI COM  
SR CAS Registry Services  
LC STN Files: AGRICOLA, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA,  
CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, EMBASE, MEDLINE,  
NIOSHTIC, PROMT, RTECS\*, TOXCENTER, ULIDAT, USPAT2, USPATFULL, VETU  
(\*File contains numerically searchable property data)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1256 REFERENCES IN FILE CA (1907 TO DATE)  
64 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
1265 REFERENCES IN FILE CAPLUS (1907 TO DATE)

12/15/2003 Karen Lehman EIC 3600

show files;ds

File 9:Business & Industry(R) Jul/1994-2003/Dec 12  
(c) 2003 Resp. DB Svcs.  
File 16:Gale Group PROMT(R) 1990-2003/Dec 12  
(c) 2003 The Gale Group  
File 18:Gale Group F&S Index(R) 1988-2003/Dec 12  
(c) 2003 The Gale Group  
File 19:Chem.Industry Notes 1974-2003/ISS 200350  
(c) 2003 Amer.Chem.Soc.  
File 20:Dialog Global Reporter 1997-2003/Dec 15  
(c) 2003 The Dialog Corp.  
File 50:CAB Abstracts 1972-2003/Nov  
(c) 2003 CAB International  
File 54:FOODLINE(R): Market Data 1979-2003/Dec 15  
(c) 2003 LFRA  
File 79:Foods Adlibra(TM) 1974-2002/Apr  
(c) 2002 General Mills  
File 129:PHIND(Archival) 1980-2003/Dec W1  
(c) 2003 PJB Publications, Ltd.  
File 130:PHIND(Daily & Current) 2003/Dec 15  
(c) 2003 PJB Publications,Ltd.  
File 148:Gale Group Trade & Industry DB 1976-2003/Dec 15  
(c)2003 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 235:AGROProjects 1990- 2003/Q4  
(c) 2003 PJB Publications,Ltd.  
File 248:PIRA 1975-2003/Dec W1  
(c) 2003 Pira International  
File 252:Packaging Sci&Tech 1982-1997/Oct  
(c) 1997 by Fraunhofer-ILV, Germany  
File 285:BioBusiness(R) 1985-1998/Aug W1  
(c) 1998 BIOSIS  
File 481:DELPHEs Eur Bus 95-2003/Dec W1  
(c) 2003 ACFCI & Chambre CommInd Paris  
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13  
(c) 2002 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Dec 15  
(c) 2003 The Gale Group  
File 635:Business Dateline(R) 1985-2003/Dec 15  
(c) 2003 ProQuest Info&Learning  
File 636:Gale Group Newsletter DB(TM) 1987-2003/Dec 12  
(c) 2003 The Gale Group

Set	Items	Description
S1	2959	IMIDACLOPRID
S2	87	PESTICIDE?(4N) (PREMISE OR GAUCHO OR MERIT OR ADMIRE OR ADV- ANTAGE()) FLEA OR CONFIDOR OR PROVADO)
S3	0	MERITGREEN(3N) PESTICID?
S4	2959	IMIDACLOPRID
S5	336386	SOLUBL? OR DISSOLV? OR SOLUBIL?
S6	8935352	LIQUID? OR WATER OR OIL OR FAT OR PETRO?
S7	34	(S1 OR S2 OR POLYVINYL(2N) PYRROLIDONE) (7N) S5 (7N) S6
S8	31	RD (unique items)
?		

8/3,K/1 (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2003 The Gale Group. All rts. reserv.

05535953 Supplier Number: 48391272 (USE FORMAT 7 FOR FULLTEXT)  
**PREMISE Offers PCOs a Host of ADVANTAGES**  
26c  
Pest Control, p26C  
April, 1998  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Refereed; Trade  
Word Count: 1110

... Premise, on the other hand, provides wider distribution in the soil. Because of its moderate **\*\*water\*\*** **\*\*solubility\*\***, **\*\*imidacloprid\*\***, the active ingredient in Premise, moves with the wetting front of the soil. Then as...

8/3,K/2 (Item 2 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2003 The Gale Group. All rts. reserv.

04381861 Supplier Number: 46426274 (USE FORMAT 7 FOR FULLTEXT)  
**Polyvinyl acetate emulsions - The effect of protective colloids**  
European Adhesives & Sealants, p6  
June, 1996  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 1630

... Ltd., Bombay. The anionic surfactant (OTL) was supplied by Hico, Bombay. Polyvinyl alcohol (GH-17), **\*\*soluble\*\*** in cold **\*\*water\*\***, was supplied by Nippon, Japan. **\*\*polyvinyl\*\*** **\*\*pyrrolidone\*\*** and sodium carboxymethyl cellulose were supplied by Loba Chemie, Bombay. Hydroxyethyl cellulose came from Wilson...

8/3,K/3 (Item 3 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2003 The Gale Group. All rts. reserv.

02042733 Supplier Number: 42635679 (USE FORMAT 7 FOR FULLTEXT)  
**PUTTING UP THE BARRIERS**  
Manufacturing Chemist, p16  
Jan, 1992  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 2853

... Oil-repellent barrier cream %w/w

Phase A	
Glyceryl monostearate	8.00
Beeswax	3.00
<b>**Petrolatum**</b>	10.00
Mineral <b>**oil**</b>	5.00
Phase B	
PVP-K-30 ( <b>**polyvinyl**</b> <b>**pyrrolidone**</b> )	1.00
<b>**Water**</b>	73.00
<b>**Dissolve**</b> PVP in <b>**water**</b> . Separately, heat both phases to 85 deg C and add A to B with vigorous...	

8/3,K/4 (Item 4 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2003 The Gale Group. All rts. reserv.

01738746 Supplier Number: 42174890 (USE FORMAT 7 FOR FULLTEXT)  
**Toyobo to Seek Approval of Oral Angina Pectoris Therapeutic**  
Comline Biotechnology & Medical, p2  
June 26, 1991  
Language: English Record Type: Fulltext  
Document Type: Newswire; Professional  
Word Count: 152

(USE FORMAT 7 FOR FULLTEXT)  
TEXT:  
...compound in wide use as a sublingual anginal drug. The active ingredient is combined with **\*\*water\*\*--\*\*soluble\*\* \*\*polyvinyl\*\* \*\*pyrrolidone\*\*** in a bilayer structure. When the preparation is placed on the gums, isosorbide dinitrate is...

8/3,K/5 (Item 1 from file: 19)  
DIALOG(R)File 19:Chem.Industry Notes  
(c) 2003 Amer.Chem.Soc. All rts. reserv.

1405390  
**Easy control of pyrrole polymer particles to expand applications**  
Journal: Jpn Chem Week 41 (2101) p. 3 Date: 20001207  
ISSN: 0047-1755 CODEN: JCHWAC

8/3,K/6 (Item 2 from file: 19)  
DIALOG(R)File 19:Chem.Industry Notes  
(c) 2003 Amer.Chem.Soc. All rts. reserv.

334082  
Journal: Chem Eng (N Y) p. 51 Date: 801006  
ISSN: 0009-2460 CODEN: CHEEA3

8/3,K/7 (Item 3 from file: 19)  
DIALOG(R)File 19:Chem.Industry Notes  
(c) 2003 Amer.Chem.Soc. All rts. reserv.

329422  
Journal: Chem Eng News p. 36 Date: 800908  
ISSN: 0009-2347 CODEN: CENEAR

8/3,K/8 (Item 1 from file: 50)  
DIALOG(R)File 50:CAB Abstracts  
(c) 2003 CAB International. All rts. reserv.

04348454 CAB Accession Number: 20023186347  
**Environmental fate of imidacloprid.**  
Krohn, J.; Hellpointner, E.  
Bayer CropScience AG, Alfred-Nobel-Str. 50, D-40789 Monheim am Rhein, Germany.  
Pflanzenschutz-Nachrichten Bayer vol. 55 (Special edition): p.1-26  
Publication Year: 2002  
ISSN: 0340-1723 --  
Language: English Summary Language: german; french; russian  
Document Type: Journal article

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**\*\*Imidacloprid\*\*** is a chloronicotinyl insecticide with very weak basic

properties. Its **\*\*water\*\*** **\*\*solubility\*\*** and partition coefficient in octanol-**\*\*water\*\*** are not influenced by the pH-values between 4 and 9. With a **\*\*water\*\*** **\*\*solubility\*\*** of 610 mg/l and a log POW of 0.56 **\*\*imidacloprid\*\*** can be classified as a hydrophilic substance with no potential for accumulation in biological tissues...

8/3,K/9 (Item 2 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2003 CAB International. All rts. reserv.

04244731 CAB Accession Number: 20023060001

**Persistence and leaching of imidacloprid in soil.**

Kalpana; Gajbhiye, V. T.; Agnihotri, N. P.

A.I.C.R.P. on Pesticide Residues, Division of Agricultural Chemicals, LBS Building, IARI, New Delhi 110 012, India.

Annals of Plant Protection Sciences vol. 10 (1): p.176-178

Publication Year: 2002

ISSN: 0971-3573 --

Language: English

Document Type: Journal article

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...conducted in Roorkee and Dehradun, Uttar Pradesh, India to determine the persistence and leaching of **\*\*imidacloprid\*\*** in soil at rates recommended against termites. **\*\*Imidacloprid\*\*** was applied in two formulations (i) 20% **\*\*soluble\*\*** **\*\*liquid\*\*** (Confidor 200 SL) and (ii) 35% suspension concentrate (Premise 350 SC). Both formulations were applied...

8/3,K/10 (Item 3 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2003 CAB International. All rts. reserv.

04061208 CAB Accession Number: 20013083137

**Use of tannin-binding chemicals to assay for tannins and their negative postingestive effects in ruminants.**

Silanikove, N.; Perevolotsky, A.; Provenza, F. D.

Department of Cattle Physiology and Nutrition, Institute of Animal Science, Agricultural Research Organization, The Volcani Center, P.O. Box 6, Bet Dagan 50 250, Israel.

Conference Title: Special issue: Tannins: analysis and biological effects in ruminant feeds. Polyphenolics in tropical ruminant production, Matopos Conference Center, Bulawayo, Zimbabwe, 11-14 October, 1999.

Animal Feed Science and Technology vol. 91 (1/2): p.69-81

Publication Year: 2001

ISSN: 0377-8401

Editors: Pell, A. N.; Mackie, R. I.; Mueller-Harvey, I.; Ndlovu, L. R.

--

Language: English

Document Type: Journal article; Conference paper

--

Synthetic polymers such as **\*\*water\*\***-**\*\*soluble\*\*** **\*\*polyvinyl\*\*** **\*\*pyrrolidone\*\*** (PVP), **\*\*water\*\*** -insoluble polyvinyl polypyrrolidone (PVPP), and **\*\*water\*\***-**\*\*soluble\*\*** polyethylene glycol (PEG) contain sufficient oxygen molecules in a chain to form strong hydrogen bonds...

8/3,K/11 (Item 4 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2003 CAB International. All rts. reserv.

04037757 CAB Accession Number: 20003037422

**Soil distribution and plant uptake of imidacloprid under drip and furrow**

1 ..  
**irrigation.**

Felsot, A. S.; Evans, R. G.; Tallman, L. C.

Entomology Department, Food and Environmental Quality Laboratory,  
Washington State University (WSU), Richland, WA 99352, USA.

Book Title: National irrigation symposium. Proceedings of the 4th  
Decennial Symposium, Phoenix, Arizona, USA, November 14-16, 2000.

Conference Title: National irrigation symposium. Proceedings of the 4th  
Decennial Symposium, Phoenix, Arizona, USA, November 14-16, 2000.

p.416-427

Publication Year: 2000

Publisher: American Society of Agricultural Engineers -- St Joseph,  
USA

ISBN: 1-892769-13-1

Language: English

Document Type: Book chapter; Conference paper

--

... hop yards under either surface drip (DI) or furrow irrigation (FI)  
systems. The systemic aphicide **\*\*imidacloprid\*\*** (**\*\*water\*\*** **\*\*solubility\*\***  
of 500 ppm) was applied a single time through the irrigation system of DI  
and...

... prior to 1997 and daily scheduled irrigation management. Leaf residues  
in 1998 rapidly increased after **\*\*imidacloprid\*\*** application and remained  
at several ppm through harvest. In general, movement of the comparatively  
**\*\*water\*\*** **\*\*soluble\*\*** **\*\*imidacloprid\*\*** was limited to the top 90 cm of the  
soil profile despite daily irrigation, but...

8/3,K/12 (Item 5 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2003 CAB International. All rts. reserv.

03710046 CAB Accession Number: 991103485

**Time-dependent sorption of imidacloprid in two different soils.**

Oi, M.

Bayer AG, Crop Protection Business Group, Crop Protection Development,  
Institute for Metabolism Research and Residue Analysis, D-51368  
Leverkusen, Germany.

Journal of Agricultural and Food Chemistry vol. 47 (1): p.327-332

Publication Year: 1999

ISSN: 0021-8561 --

Language: English

Document Type: Journal article

--

... it more resistant to leaching. These results help to explain the low  
leaching potential of **\*\*imidacloprid\*\*** in the field, despite its high  
**\*\*water\*\*** **\*\*solubility\*\***.

8/3,K/13 (Item 6 from file: 50)

DIALOG(R)File 50:CAB Abstracts

(c) 2003 CAB International. All rts. reserv.

03640241 CAB Accession Number: 981111436

**\*\*Imidacloprid\*\* and related compounds: structure and **\*\*water\*\***  
**\*\*solubility\*\*** of N-alkyl derivatives of **\*\*imidacloprid\*\***.**

Kagabu, S.; Yokoyama, K.; Iwaya, K.; Tanaka, M.

Department of Chemistry, Faculty of Education, Gifu University,  
Yanagido, Gifu 501-1193, Japan.

Bioscience, Biotechnology and Biochemistry vol. 62 (6): p.1216-1224

Publication Year: 1998

ISSN: 0916-8451 --

Language: English



Document Type: Journal article

**\*\*Imidacloprid\*\* and related compounds: structure and \*\*water\*\*  
\*\*solubility\*\* of N-alkyl derivatives of \*\*imidacloprid\*\*.** --

8/3,K/14 (Item 7 from file: 50)  
DIALOG(R)File 50:CAB Abstracts  
(c) 2003 CAB International. All rts. reserv.

03609681 CAB Accession Number: 981109074  
Efficacy of imidacloprid, a new insecticide for controlling *Myzus nicotianae* on flue cured Virginia tobacco (*Nicotiana tabacum*).  
Ramaprasad, G.; Sreedhar, U.; Sitaramaiah, S.; Rao, S. N.; Satyanarayana, S. V. V.  
Central Tobacco Research Institute, Rajahmundry, Andhra Pradesh 533 105, India.  
Indian Journal of Agricultural Sciences vol. 68 (3): p.165-167  
Publication Year: 1998  
ISSN: 0019-5022 --  
Language: English  
Document Type: Journal article

--  
... insecticides for controlling *Myzus nicotianae* on flue cured Virginia tobacco (*Nicotiana tabacum*). Both formulations of **\*\*imidacloprid\*\*** (70 **\*\*water\*\*** **\*\*soluble\*\*** powder) and 200 **\*\*soluble\*\*** concentrates/litre at 50 g ai or acephate 750 g ai/ha as 2 foliar sprays or a combination of **\*\*imidacloprid\*\*** 70 **\*\*water\*\*** **\*\*soluble\*\*** powder at 100 g ai/ha as a planting hole treatment + 1 foliar spray of **\*\*imidacloprid\*\*** 200 **\*\*soluble\*\*** concentrates/litre at 50 g ai/ha effectively controlled the aphids throughout the season and...

8/3,K/15 (Item 8 from file: 50)  
DIALOG(R)File 50:CAB Abstracts  
(c) 2003 CAB International. All rts. reserv.

03550554 CAB Accession Number: 981907704  
Quantitation of imidacloprid in liquid and solid formulations by reversed-phase liquid chromatography: collaborative study.  
Macke, M. M.  
Bayer Corp., Agriculture Division, PO Box 4913, Hawthorne Rd, Kansas City, MO 64120-0013, USA.  
Journal of AOAC International vol. 81 (2): p.344-348  
Publication Year: 1998  
ISSN: 1060-3271 --  
Language: English  
Document Type: Journal article

--  
A **\*\*liquid\*\*** chromatographic (LC) method was developed for quantitation of **\*\*imidacloprid\*\*** in **\*\*liquid\*\*** and solid formulations. Samples are **\*\*dissolved\*\*** or extracted in solvent and analysed by reversed-phase LC with propiophenone as internal standard...

8/3,K/16 (Item 9 from file: 50)  
DIALOG(R)File 50:CAB Abstracts  
(c) 2003 CAB International. All rts. reserv.

01912286 CAB Accession Number: 871916401  
Extracellular (1 right arrow 3), (1 right arrow 6)-linked beta -D-glucan produced by the soil fungus *Ulocladium atrum*.  
Martinez, A. T.; Martinez, M. J.; Almendros, G.

Inst. Microbiol. "Jaime Ferran", CSIC, Velazquez 144, Madrid 28006, Spain.

Soil Biology & Biochemistry vol. 18 (5): p.469-474

Publication Year: 1986

ISSN: 0038-0717 --

Language: English

Document Type: Journal article

--

... glucan produced by *Ulocladium atrum* isolated from beech litter was studied after precipitation from culture **liquid** with acetone, and purification using **polyvinyl pyrrolidone** for **soluble** pigment elimination. The polysaccharide showed a high intrinsic viscosity and a large molecular size, estimated...

8/3,K/17 (Item 1 from file: 129)

DIALOG(R)File 129:PHIND(Archival)

(c) 2003 PJB Publications, Ltd. All rts. reserv.

00008722

#### Developments in research

Scrip 716 p14, August 04, 1982 (19820804)

WORD COUNT: 197

...through mucosal linings, eg in the vagina, which consists of a multilayer film containing alternate **water-soluble** and **water-insoluble** polymer layers impregnated with prostaglandins. Suitable **water-soluble** polymers include hydroxypropylcellulose, **polyvinyl pyrrolidone**, and hydroxypropylmethylcellulose of molecular weight 10,000 to 40,000, while **water-insoluble** polymers include cellulose acetate. The formulation also contains plasticisers and, optionally, one or more...

8/3,K/18 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

09831907 SUPPLIER NUMBER: 17888310 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Impact of EVA based hot melts on paper recycling. (ethylene-vinyl acetate) (includes related article)

Jarvis, Neil R.

Adhesives Age, v38, n12, p26(3)

Nov, 1995

ISSN: 0001-821X

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 2000 LINE COUNT: 00168

... are vegetable based adhesives (starches, dextrans, gums), natural proteins (hide and bone glues, caseins), and **water-soluble** synthetic polymers (**polyvinyl alcohol**, **polyvinyl pyrrolidone**). In addition. some adhesives that are manufactured in emulsion form (polyvinyl acetate homopolymer, for example...

8/3,K/19 (Item 2 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2003 The Gale Group. All rts. reserv.

04159436 SUPPLIER NUMBER: 08263765 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Formulating shower gels: these products must deliver mildness, rinsability, foaming, skin feel and acceptable fragrance impact.

Brassard, Michele

Cosmetics and Toiletries, v104, n12, p53(7)

Dec, 1989

... balance the conditioning and foaming ability of a formulation. Many shower gel formulas also include **\*\*water\*\*--\*\*soluble\*\*** gums and resins including guar gum, **\*\*polyvinyl\*\* \*\*pyrrolidone\*\*** (PVP), and cross-linked carbomers to improve skin feel, add lubricity,

8/3,K/20      (Item 1 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.

01167621

**Improved drug delivery.**

CHEMICAL & ENGINEERING NEWS      April 1, 1985      p. 30-482

... delivery systems. Hydrogels often consist of methacrylates, such as poly(hydroxyethyl methacrylate), poly(vinyl-2-**\*\*pyrrolidone\*\***, **\*\*polyvinyl\*\*** alcohol and **\*\*water\*\*--\*\*soluble\*\*** cellulose derivatives. They can hold relatively large amounts of **\*\*water\*\*** and are useful for delivering high-molecular-weight compounds. Researchers at the U of Utah...

8/3,K/21      (Item 2 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
(c) 1999 The Gale Group. All rts. reserv.

00803367

Ono Pharmaceutical (Japan) has developed a sustained release system for uterine contractant prostaglandins, using mucosal linings.  
Scrip      August 4, 1982      p. 14

... in a formulation containing plasticisers with the option of one or more organic acids. Suitable **\*\*water\*\*--\*\*soluble\*\*** polymers include hydroxypropylcellulose, **\*\*polyvinyl\*\* \*\*pyrrolidone\*\*** and hydroxypropylmethyl cellulose of 10,000-40,000 molecular weight. **\*\*Water\*\* \*\*soluble\*\*** polymers include cellulose acetate.

8/3,K/22      (Item 3 from file: 160)  
DIALOG(R)File 160:Gale Group PROMT(R)  
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00580943

A convenient and nontoxic method to clean rusty metal surfaces has been developed by DL Venezky and R Panayappan of Naval Research Lab (Washington, DC).  
Chemical & Engineering News      September 8, 1980      p. 36

A **\*\*water\*\* \*\*soluble\*\*** polymer, such as **\*\*polyvinyl\*\* \*\*pyrrolidone\*\***, is mixed with a chelating agent, such as EDTA. The thick paste is applied directly...

8/3,K/23      (Item 1 from file: 248)  
DIALOG(R)File 248:PIRA  
(c) 2003 Pira International. All rts. reserv.

00530144      Pira Acc. Num.: 40022119

Title: Photochromism of Tungsten Oxide Film Prepared by the Sol-Gel Process

Authors: Habu T; Nishide T; Hirai M; Morisima T

Source: J. Soc. Photogr. Sci. Technol. Jpn vol. 61, no. 5, pp 288-295

ISSN: 0369-5662  
Publication Year: 1998  
Document Type: Journal Article  
Language: Japanese

...Abstract: a film of amorphous tungsten(VI) oxide. A similar effect has been found with other **\*\*water\*\***-**\*\*soluble\*\*** polymers - polyacrylic acid, polyethylene glycol, and **\*\*polyvinyl\*\*** **\*\*pyrrolidone\*\***, the last-named being particularly effective. The influence of 2-pyrrolidone on the behaviour and...

8/3,K/24 (Item 2 from file: 248)  
DIALOG(R)File 248:PIRA  
(c) 2003 Pira International. All rts. reserv.

00493448 Pira Acc. Num.: 40015711  
**Title: Composition for Anti-Reflection Coating**  
Authors: Yoshida T; Tanaka H  
Patent Assignee: Hoechst Japan Ltd  
Patent Number: EP 803776 Patent Date: 971029  
Application number: JP 129056 Application Date: 960425  
Publication Year: 1997  
Document Type: Patent  
Language: English

Abstract: An antireflection coating consists of a perfluoroalkyl sulphonic acid, an organic amine, a **\*\*polyvinyl\*\*** **\*\*pyrrolidone\*\***, a **\*\*water\*\*** **\*\*soluble\*\*** alkylsiloxane polymer and **\*\*water\*\***. The coating has a low refractive index, reduces the degree of forming an insoluble layer...

8/3,K/25 (Item 3 from file: 248)  
DIALOG(R)File 248:PIRA  
(c) 2003 Pira International. All rts. reserv.

00396188 Pira Acc. Num.: 20019842  
**Title: RECYCLABLE ADHESIVE TAPES**  
Authors: Czech Z  
Source: Adhesion vol. 38, no. 11, 1994, pp 26-29  
ISSN: 0001-8198  
Publication Year: 1994  
Document Type: Journal Article  
Language: German

...Abstract: papers. Transfer tapes are available for applications demanding very thin adhesive layers. Natural or synthetic **\*\*water\*\*** **\*\*soluble\*\*** polymers such as dextrine, gelatine, vinyl **\*\*pyrrolidone\*\*** or **\*\*polyvinyl\*\*** alcohol are not suitable for PSA formulation. High performance **\*\*water\*\*** **\*\*soluble\*\*** splicing tapes can be made using polyacrylate based PSAs. Latest developments include alkylacrylate and acrylic...

8/3,K/26 (Item 4 from file: 248)  
DIALOG(R)File 248:PIRA  
(c) 2003 Pira International. All rts. reserv.

00269171 Pira Acc. Num.: 40805233  
**Title: WATER SOLUBLE PHOTORESIST COMPOSITIONS**  
Authors: Koike N; Ito T; Watanabe S; Ikari K  
Patent Assignee: TOKYO SHIBAURA DENKI K.K.  
Patent Number: US 4491629 Application Date: 820222  
Document Type: Patent  
Language: unspecified

...Abstract: good adhesion to the substrate together with the polyazamidesilane compound. As the solvent system is \*\*water\*\* based the compositions are virtually pollution free. The \*\*water\*\*--\*\*soluble\*\* polymer is preferably a mixture of \*\*polyvinyl\*\* \*\*pyrrolidone\*\* and \*\*polyvinyl\*\* alcohol.

8/3,K/27 (Item 5 from file: 248)  
DIALOG(R)File 248:PIRA  
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00264116 Pira Acc. Num.: 40709161  
Title: METHOD OF TREATING LITHOGRAPHIC PRINTING PLATES WITH 2-PROPOXYETHANOL  
Authors: Walls John E  
Patent Assignee: AMERICAN HOECHST CORPORATION  
Patent Number: US 4381340  
Application Date: 830426  
Document Type: Patent  
Language: unspecified

...Abstract: 17, and an inorganic salt. A developer/finisher may be prepared by adding thereto a \*\*water\*\*--\*\*soluble\*\* polymeric film former which is preferably \*\*polyvinyl\*\* \*\*pyrrolidone\*\*. A suspending agent, e.g. polyethylene glycol, is added to hand processing solutions.

8/3,K/28 (Item 6 from file: 248)  
DIALOG(R)File 248:PIRA  
(c) 2003 Pira International. All rts. reserv.

00077913 Pira Acc. Num.: 40710800  
Title: WATER DEVELOPABLE DYE COATING ON SUBSTRATE WITH TWO DIAZO POLYCONDENSATION PRODUCTS AND WATER SOLUBLE POLYMERIC BINDER  
Authors: Barton Oliver A; Wright James D  
Patent Assignee: AMERICAN HOECHST CORPORATION  
Patent Number: US 4469772  
Application Date: 840904  
Document Type: Patent  
Language: unspecified

...Abstract: precipitated as mesitylene sulfonate, and (C) at least one colorant: and (D) at least one \*\*water\*\* \*\*soluble\*\* polymeric binding resin which is preferably \*\*polyvinyl\*\* \*\*pyrrolidone\*\*. The element is developable using \*\*water\*\* alone as a solvent.

8/3,K/29 (Item 1 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2003 The Gale Group. All rts. reserv.

03250025 Supplier Number: 46671192 (USE FORMAT 7 FOR FULLTEXT)  
High-Speed Sensor Measures Glucose  
Medical Materials Update, v3, n8, pN/A  
Sept 1, 1996  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 363

... enhanced by the inclusion of the second enzyme.  
The sensor was formulated by preparing a \*\*water\*\*--\*\*soluble\*\* photosensitive resin by \*\*dissolving\*\* 2,5-bis(4'-azide-2'-sulfobenzal)cyclopentanone sodium salt and \*\*polyvinyl\*\* \*\*pyrrolidone\*\* in \*\*water\*\*. Meanwhile, aqueous solutions of glucose oxidase and

gluconolactonase were prepared and concentrated. The enzyme solutions...

8/3,K/30 (Item 2 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
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01434772 Supplier Number: 41904068 (USE FORMAT 7 FOR FULLTEXT)  
**Preparation of MF Membrane with Preselected Pore Structure Described**  
Membrane & Separation Technology News, v9, n7, pN/A  
March, 1991  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 569

... solvent for the dispersed phase evaporates, various porous substrates with unique morphologies are obtained.

The \*\*water\*\*--\*\*soluble\*\* polymer (A) is selected from polyethyleneimine, gelatin. \*\*polyvinyl\*\*--\*\*pyrrolidone\*\*, polyvinylpyridinium halide, polyacrylic acid, polyhydroxyethylmethacrylate (HEMA), dextran, or polyvinyl acetate. The continuous phase polymer (B...

8/3,K/31 (Item 3 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
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01231690 Supplier Number: 41251454 (USE FORMAT 7 FOR FULLTEXT)  
**SEITAIKINOURIYOU KAGAKUHI SINSEIZOGIJUTSU KK PATENTS A MEMBRANE**  
BIOTECH Patent News, v4, n4, pN/A  
April, 1990  
Language: English Record Type: Fulltext  
Document Type: Newsletter; Professional Trade  
Word Count: 49

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...has patented a membrane containing an immobilized enzyme for a semiconductor sensor and containing a \*\*water\*\* \*\*soluble\*\* photosensitive resin including a high molecular weight \*\*polyvinyl\*\* \*\*pyrrolidone\*\* crosslinked to 2, 5-bis (4'-azide-2'-sulfobenzal) cyclopentanone sodium salt. (US 4,894...  
?t 8/7/all

8/7/1 (Item 1 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2003 The Gale Group. All rts. reserv.

05535953 Supplier Number: 48391272 (THIS IS THE FULLTEXT)  
**PREMISE Offers PCOs a Host of ADVANTAGES**  
26c

Pest Control, p26C  
April, 1998

TEXT:

Since Premise was registered by the Environmental Protection Agency (EPA) on Feb. 8, 1995, for the control of all economically damaging subterranean termite species affecting structures prior to and after construction, the product has caught on very rapidly with pest control operators (PCOs) for several reasons.

The fact of the matter is, 'Premise is not your father's termiticide.' The product, which is manufactured by Bayer Corp., Kansas City, Mo., offers several

distinct advantages over today's competing termiticides, as well as those from yesteryear.

Premise brings several advantages to the marketplace that PCOs have

not seen before. These include:

1. A 'treated zone' around the structure as opposed to a 'barrier.'
2. A unique mode of action.
3. No odor.
4. Innovative packaging that provides easy handling.
5. Control over a wide variety of termites. (In addition, carpenter ant control was recently added to the label.)

NON-REPELLENT TREATED ZONE - Premise offers PCOs a non-repellent treated zone, as opposed to a repellent barrier treatment. The difference is this, when Premise is applied beneath and around a structure, it is distributed throughout the soil in a process referred to as Lateral Soil Movement.

This is important for PCOs to consider. When termites come to a typical termiticide barrier, they often forage until they find a small break and then move through the break into the structure. Premise, on the other hand, provides wider distribution in the soil. Because of its moderate \*\*water\*\* \*\*solubility\*\*, \*\*imidacloprid\*\*, the active ingredient in Premise, moves with the wetting front of the soil. Then as the soil dries, Premise binds with soil particles, establishing a continuous treated zone.

Looking at this advantage, Michael Cavanaugh, from Cavanaugh's Exterminating Co., Freehold, N.J., says, 'We like the fact that Premise offers a broader treatment area, what Bayer calls its treated zone. Termites are allowed to pass through into the treated area to pick up the termiticide.'

'With traditional termiticides, if there is a break in the barrier, and the termiticide doesn't get to it, the termites will get through that area.'

MODE OF ACTION - superior mode of action is also an important consideration. Traditionally, when termites come into contact with the other termiticides on the market, they are either repelled or killed.

Premise brings a different mode of action to the pest control industry. The termites don't know that they have encountered Premise in the soil until it's too late, and as a result, their actions are different. As soon as the termites contact Premise, they stop feeding immediately. The termites also become disoriented and stop interacting socially as Premise affects their nervous systems.

However, the product doesn't stop working there. A mode of action called Premise Plus Nature takes effect, which means that termites succumb to disease and ultimately die through contact with naturally occurring organisms found in the soil.

These two modes of action set off a series of events in the colony, including no feeding, grooming or socializing and then, death.

'The area we really found it effective in, and we felt that it was because it doesn't have a repelling action, is in high moisture areas, such as in walls. The termites seem to continue working back to the ground, and Premise kills out the colonies. With other termiticides, the termites seem to sense the chemical and keep on feeding in the walls,' states Frank Strickland, from A&A Termite & Pest Control, Marietta, Ga.

ODOR-FREE - Jeff Annis, from Advanced Services, Augusta, Ga., also likes what happens when he uses Premise. In addition, he reports that the product has no odor and is easy to handle.

'Our original reason for using it was the mode of action,' Annis states. 'Premise is a completely different type of termiticide. It works very well on the termites and not on people.'

No odor is, of course, a major plus for a termiticide.

'We found that a lot of our clients enjoy the fact that it is a termiticide with less odor,' says Cavanaugh. 'They don't have to consider the odor. We have used other termiticides in the past that as soon as they were applied to the soil, our clients had concerns about the odor.'

'We have drilled slabs where the fact is there have been odors even with the odor-masking agents. We made the switch over to Premise due to the fact that it had no odor.'

PACKAGING PLUS - When it comes to working in the field, PCOs consider the Premise packaging a major advantage. When Premise 75 was first

introduced to the pest control industry, the product was in four wettable powder packets within a resealable foil pack.

One water-soluble packet in 25 gallons of water provides 0.05 percent end-use concentrate, and two packets in 25 gallons of water provides 0.1 percent end-use concentrate.

Bayer has since given PCOs an alternative package, with Premise 0.5 SC in a 2.5-gallon container. In that container, 110 fluid ounces in 100 gallons of water will provide 0.05 percent end-use concentrate, while 220 fluid ounces per 100 gallons will be a 0.1 percent end-use concentrate.

All in all, the PCOs interviewed by Pest Control magazine had only good things to say about the Premise packaging. The remarks from Jim Kiening, the chief executive officer of National Bugmobiles in Victoria, Texas, are typical.

'One of our primary treaters told me that he was really comfortable with Premise because it's so convenient to use. We have 50-gallon tanks, and we just place two packs in each tank.'

By using the 50-gallon tanks and the water-soluble Premise, Kiening indicates that 'Bugmobiles tries to minimize any spill problems the company might have.'

**SPECIES CONTROL** - Premise is labeled for the control of all major termite species, including Eastern subterranean termites *Reticulitermes flavipes* and *Reticulitermes virginicus*; Formosan subterranean termites, *Coptotermes formosanus*; Western subterranean termites, *Reticulitermes hesperus*, and Desert subterranean termites, *Heterotermes aureus*. In addition, Premise was recently labeled for control of carpenter ants, *Camponotus* spp.

Two years ago, National Bugmobiles had a major problem with Formosan termites at a manufacturing site in the Victoria area.

'We used Premise and then treated the exposed wood with Tim-bor,' says Kiening. Bugmobiles went back at six months, one year and one-and-one-half years to inspect, and found no problems.

Many of the interviewed PCOs were also enthusiastic about the support they are provided by the Bayer sales representatives.

'They have good support,' says Cavanaugh. 'Bayer helps us out. They put on in-house training sessions and they have come out with us on large bids, such as nursing homes.'

Maybe you should put Bayer and Premise to work in your company and check out the advantages for yourself.

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(FILE 'HOME' ENTERED AT 16:56:29 ON 15 DEC 2003)

FILE 'REGISTRY' ENTERED AT 16:56:45 ON 15 DEC 2003

E IMIDACLOPRID/CN

L1 1 SEA ABB=ON PLU=ON IMIDACLOPRID/CN

D

E POLYVINYL PYRROLIDONE/CN

FILE 'HCAPLUS' ENTERED AT 16:59:15 ON 15 DEC 2003

L2 3 SEA ABB=ON PLU=ON L1(5A) (DISSOVL? OR SOLUBIL? OR SOLUBLE) (5A)  
(WATER OR LIQUID OR SOLVENT OR OIL OR PETRO?)

D IBIB ABS 1-3

L3 1266 SEA ABB=ON PLU=ON IMIDACLOPRID

L4 4 SEA ABB=ON PLU=ON L3(5A) (SOLVENT OR SOLUBL? OR SOLUBIL? OR  
DISSOLV?) (5A) (LIQUID? OR WATER OR FAT OR OIL# OR PETRO?)

D IBIB ABS 1-4

FILE 'AGRICOLA' ENTERED AT 17:04:56 ON 15 DEC 2003

L5 0 SEA ABB=ON PLU=ON (L2 OR L4)

FILE 'BIOSIS' ENTERED AT 17:05:32 ON 15 DEC 2003

L6 2 SEA ABB=ON PLU=ON (L2 OR L4)

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 14 DEC 2003 HIGHEST RN 627034-55-3

DICTIONARY FILE UPDATES: 14 DEC 2003 HIGHEST RN 627034-55-3

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE HCAPLUS

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12/15/2003 Karen Lehman EIC 3600

10/079000

SOLVENT OR OIL OR PETRO?)

=> d ibib abs 1-3

L2 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:878965 HCAPLUS  
DOCUMENT NUMBER: 138:158105  
TITLE: Photocatalytic treatment of water-soluble pesticides  
by photo-Fenton and TiO<sub>2</sub> using solar energy  
AUTHOR(S): Malato, S.; Blanco, J.; Caceres, J.; Fernandez-Alba,  
A. R.; Aguera, A.; Rodriguez, A.  
CORPORATE SOURCE: Plataforma Solar de Almeria-CIEMAT; Almeria, 04200,  
Spain  
SOURCE: Catalysis Today (2002), 76(2-4), 209-220  
CODEN: CATTEA; ISSN: 0920-5861  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

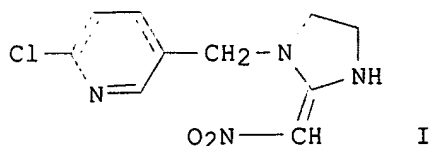
AB The tech. feasibility and performance of photocatalytic degradation of 4 water-soluble pesticides (diuron, imidacloprid, formetanate and methomyl) were studied at pilot scale in 2 well-defined systems of special interest because natural-solar UV light can be used: heterogeneous photocatalysis with titania and homogeneous photocatalysis by photo-Fenton. The pilot plant is made up of compound parabolic collectors (CPCs) specially designed for solar photocatalytic applications. Exptl. conditions allowed disappearance of pesticide and degree of mineralization achieved in the 2 photocatalytic systems to be compared. In order to assure that the photocatalytic results are consistent, hydrolysis and photolysis tests were performed with the 4 pesticides. The initial concentration tested with imidacloprid, formetanate and methomyl was 50 and 30 mg/L with diuron, and the catalyst concns. were 200 mg/L and 0.05mM with TiO<sub>2</sub> and Fe, resp. Total disappearance of the parent compds. and 90% mineralization were attained with all pesticides tested, methomyl being the most difficult to be degraded with both treatments. First-order rate consts., initial rate, time necessary for mineralizing 90% of the initial TOC and H<sub>2</sub>O<sub>2</sub> consumption were calculated in all cases, enabling comparison both of treatments and of the selected pesticide reactivity.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:454113 HCAPLUS  
DOCUMENT NUMBER: 129:157935  
TITLE: Chloronicotinyl Insecticides. Part X. Imidacloprid and related compounds: structure and water solubility of N-alkyl derivatives of imidacloprid  
AUTHOR(S): Kagabu, Shinzo; Yokoyama, Kazuhito; Iwaya, Kazuko; Tanaka, Masahiro  
CORPORATE SOURCE: Department of Chemistry, Faculty of Education, Gifu University, Gifu, 501-1193, Japan  
SOURCE: Bioscience, Biotechnology, and Biochemistry (1998), 62(6), 1216-1224  
CODEN: BBBIEJ; ISSN: 0916-8451  
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
GI

12/15/2003 Karen Lehman EIC 3600



AB An intramol. hydrogen bond between NH...O2N in insecticide, imidacloprid (I), and its nitromethylene analog (II) was proved by NMR and IR spectra. That electron delocalization over their planar moieties was disrupted by alkylation at the imidazolidine nitrogen atom is demonstrated by the hypsochromic shifts in UV and deshielding effect in NMR spectra. Interestingly, the N-alkyl derivs. (C1-5) had greater water solubility than I, although increasing alkyl chain length decreased the solubility. The hydrophilicity of the alkyl derivs. would result from remote charge heads being formed as a result of the conjugation disruption by alkylation, while the hydrophobicity of I could be ascribed to the charge distribution over the conjugated system coupled with the intramol. H-bonding. The greater water solubility of II than I and contrastively small solubility of the cyanoimine analog are discussed based on the difference in their steric crowding.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1995:951903 HCAPLUS

DOCUMENT NUMBER: 123:332762

TITLE: Controlled-release pesticide preparations containing fats and/or oils

INVENTOR(S): Wada, Yuzuru; Goshima, Toshio; Kamata, Yasuhiro

PATENT ASSIGNEE(S): Nihon Tokushu Noyaku Seizo Kk, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP--07242502	A2	19950919	1994JP-0062122	19940308
PRIORITY APPLN. INFO.:			1994JP-0062122	19940308

AB Controlled-release pesticide compns. comprise mixts. of  $\geq 1$  water-soluble pesticides, water-insol. substances those are not softened or liquefied at  $\leq 50^\circ$ , and water-insol. mineral oils, natural fats and/or oils, or silicone oils, being melted or tableted and then granulated to particle size 0.1-0.5 mm. Controlled-release pesticide granules are manufactured by extrusion of the compns. Me  $\alpha$ -(4,6-dimethoxypyrimidin-2-ylcarbamoysulfamoyl)-o-toluate (I) 5.00, di-Me polysiloxane 0.20, and carnauba wax to 100% were mixed, tableted, and pulverized to give powder (size 100-300  $\mu\text{m}$ ), 6.00% of which was kneaded with bentonite 30.00, Na ligninsulfonate 0.50, and talc to 100% and extruded to give granules. The granules (0.5 g) were put in 2 L H<sub>2</sub>O at  $20^\circ$  to show release of 0.07 ppm I in 6 h and 0.42 ppm I in 24 h, vs. 0.35 ppm and 0.67 ppm, resp., for controls formulated without using

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di-Me polysiloxane and wax. The granules (at 0.3 g/are as I) showed  $\geq 90\%$  control of *Monochoria vaginalis*, *Scirpus juncooides hotarui*, and *Sagittaria pygmaea*.

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L4 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2003:866144 HCAPLUS

TITLE: Applied studies in solar photocatalytic  
detoxification: an overviewAUTHOR(S): Malato, Sixto; Blanco, Julian; Vidal, Alfonso;  
Alarcon, Diego; Maldonado, Manuel I.; Caceres, Julia;  
Gernjak, WolfgangCORPORATE SOURCE: CIEMAT--Plataforma Solar de Almeria, Ctra. Senes Km.  
4, Tabernas, Almeria, 04200, Spain

SOURCE: Solar Energy (2003), 75(4), 329-336

CODEN: SRENA4; ISSN: 0038-092X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The tech. feasibility and performance of photocatalytic degradation of four **water-sol.** pesticides (diuron, **imidacloprid**, formetanate and methomyl) have been studied at pilot scale in two well-defined systems which are of special interest because natural-solar UV light can be used for them: heterogeneous photocatalysis with titanium dioxide and homogeneous photocatalysis by photo-Fenton. The pilot plant is made up of compound parabolic collectors specially designed for solar photocatalytic applications. The initial concentration tested with imidacloprid, formetanate and methomyl was 50 and 30 mg/l with diuron, and the catalyst concns. were 200 mg/l and 0.05 mM with TiO<sub>2</sub> and iron, resp. Total disappearance of the parent compds., 90% mineralization and toxicity reduction below the threshold (EC50) have been attained with all pesticides tested. All these results have contributed to an evaluation of photocatalytic treatment capacity and comments on the main parameters of TiO<sub>2</sub> and Fe separation from the treated water.

L4 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:878965 HCAPLUS

DOCUMENT NUMBER: 138:158105

TITLE: Photocatalytic treatment of water-soluble pesticides  
by photo-Fenton and TiO<sub>2</sub> using solar energyAUTHOR(S): Malato, S.; Blanco, J.; Caceres, J.; Fernandez-Alba,  
A. R.; Agüera, A.; Rodriguez, A.CORPORATE SOURCE: Plataforma Solar de Almeria-CIEMAT, Almeria, 04200,  
Spain

SOURCE: Catalysis Today (2002), 76(2-4), 209-220

CODEN: CATTEA; ISSN: 0920-5861

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The tech. feasibility and performance of photocatalytic degradation of 4 **water-sol.** pesticides (diuron, **imidacloprid**, formetanate and methomyl) were studied at pilot scale in 2 well-defined systems of special interest because natural-solar UV light can be used: heterogeneous photocatalysis with titania and homogeneous photocatalysis by photo-Fenton. The pilot plant is made up of compound parabolic collectors (CPCs) specially designed for solar photocatalytic applications. Exptl. conditions allowed disappearance of pesticide and degree of mineralization achieved in the 2 photocatalytic systems to be compared. In order to assure that the photocatalytic results are

consistent, hydrolysis and photolysis tests were performed with the 4 pesticides. The initial concentration tested with imidacloprid, formetanate and methomyl was 50 and 30 mg/L with diuron, and the catalyst concns. were 200 mg/L and 0.05mM with TiO<sub>2</sub> and Fe, resp. Total disappearance of the parent compds. and 90% mineralization were attained with all pesticides tested, methomyl being the most difficult to be degraded with both treatments. First-order rate consts., initial rate, time necessary for mineralizing 90% of the initial TOC and H<sub>2</sub>O<sub>2</sub> consumption were calculated in all cases, enabling comparison both of treatments and of the selected pesticide reactivity.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:454113 HCAPLUS

DOCUMENT NUMBER: 129:157935

TITLE: Chloronicotinyl Insecticides. Part X. Imidacloprid and related compounds: structure and **water solubility** of N-alkyl derivatives of **imidacloprid**

AUTHOR(S): Kagabu, Shinzo; Yokoyama, Kazuhito; Iwaya, Kazuko; Tanaka, Masahiro

CORPORATE SOURCE: Department of Chemistry, Faculty of Education, Gifu University, Gifu, 501-1193, Japan

SOURCE: Bioscience, Biotechnology, and Biochemistry (1998), 62(6), 1216-1224

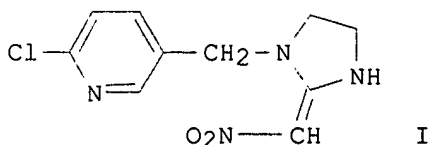
CODEN: BBBIEJ; ISSN: 0916-8451

PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB An intramol. hydrogen bond between NH...O<sub>2</sub>N in insecticide, imidacloprid (I), and its nitromethylene analog (II) was proved by NMR and IR spectra. That electron delocalization over their planar moieties was disrupted by alkylation at the imidazolidine nitrogen atom is demonstrated by the hypsochromic shifts in UV and deshielding effect in NMR spectra. Interestingly, the N-alkyl derivs. (C1-5) had greater water solubility than I, although increasing alkyl chain length decreased the solubility. The hydrophilicity of the alkyl derivs. would result from remote charge heads being formed as a result of the conjugation disruption by alkylation, while the hydrophobicity of I could be ascribed to the charge distribution over the conjugated system coupled with the intramol. H-bonding. The greater water solubility of II than I and contrastively small solubility of the cyanoimine analog are discussed based on the difference in their steric crowding.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS

10/079000

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1998:390559 HCAPLUS

DOCUMENT NUMBER: 129:145845

TITLE: Efficacy of imidacloprid, a new insecticide for  
controlling Myzus nicotianae on flue cured Virginia  
tobacco (Nicotiana tabacum)

AUTHOR(S): Ramaprasad, G.; Sreedhar, U.; Sitaramaiah, S.; Rao, S.  
Nageswara; Satyanarayana, S. V. V.

CORPORATE SOURCE: Central Tobacco Research Institute, Rajahmundry, 533  
105, India

SOURCE: Indian Journal of Agricultural Sciences (1998), 68(3),  
165-167

CODEN: IJASA3; ISSN: 0019-5022

PUBLISHER: Indian Council of Agricultural Research

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A field experiment was conducted during 1991-94 to evaluate the performance of  
a new insecticide imidacloprid and other insecticides for controlling  
tobacco aphid (Myzus nicotianae Blackman) on flue cured Virginia tobacco  
(Nicotiana tabacum L.). Both the formulations of **imidacloprid**  
(70 **water sol.** powder) and 200 soluble concs./L at 50 g  
ai or acephate 750 g ai/ha as 2 foliar sprays or combination of  
**imidacloprid** 70 **water sol.** powder at 100 g  
ai/ha as plant hole treatment + 1 foliar spray of imidacloprid 200 soluble  
concs./L at 50 g ai/ha effectively controlled the aphids throughout the  
season and recorded better yield of cured leaf, bright-leaf and grade  
index. Oxydemeton Me 0.05% foliar spray controlled the aphid effectively  
only up to 8 days after spray.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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